UNESCO SOURCES

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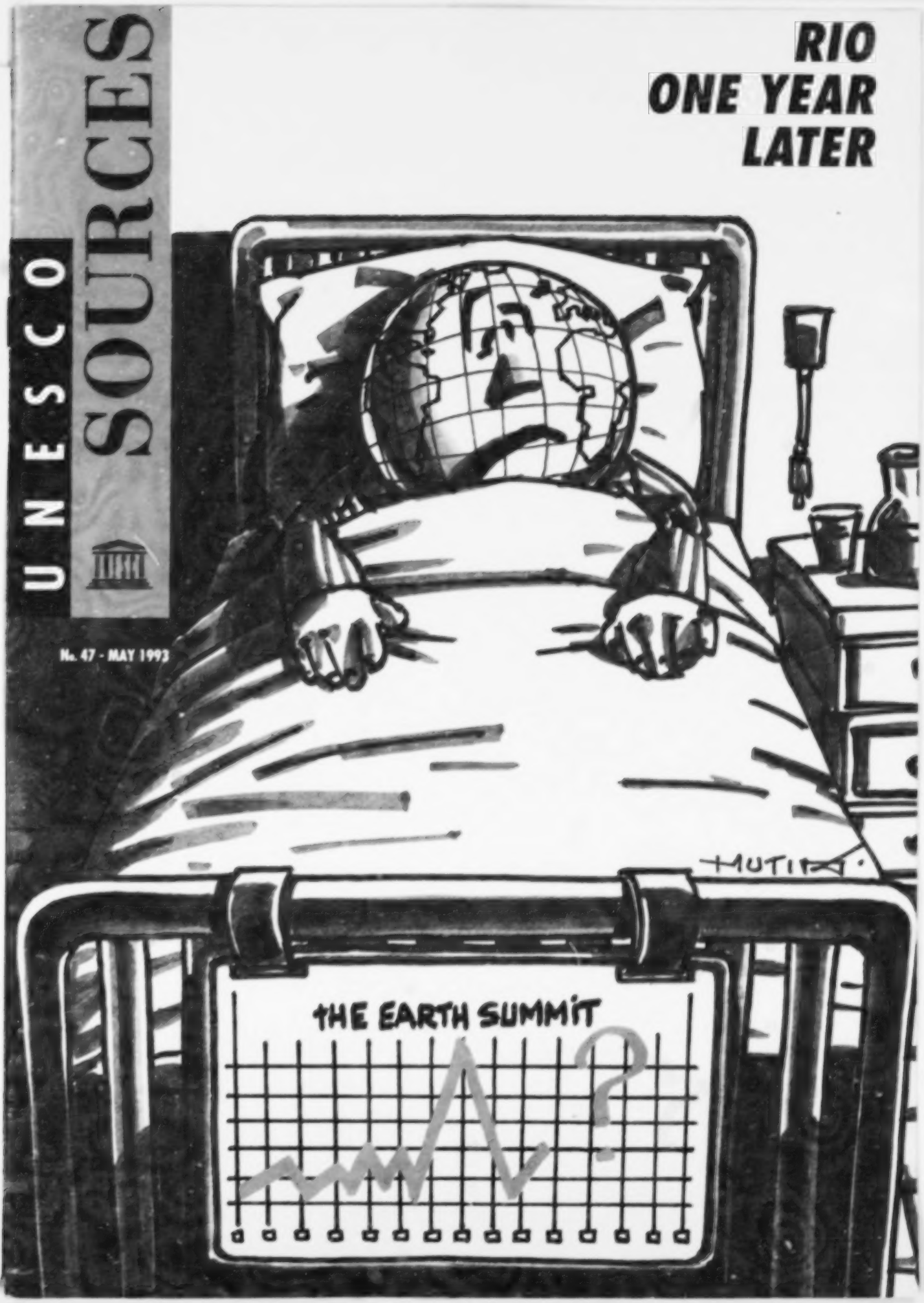
RIO ONE YEAR LATER



Readers, we have reserved this page for your comments, suggestions and criticisms. Consider it yours!

OUR COMMON HOME

Lotfi Haddad
Pharmacist
Skikda, Algeria

Congratulations on the excellent job you do each month in UNESCO Sources. The abundance of information you provide is extremely useful for readers who can thus keep abreast of what's going on around the world in the fields of culture, the environment, etc. UNESCO's effort to safeguard World Heritage for future generations and its remarkable contribution to the restoration of monuments damaged by war – the case in Bosnia, those degraded by time or natural catastrophies. Needless to say, the task is not easy.

In my opinion, your dossier on Dubrovnik was a well-chosen example. I for one am particularly distressed by what is happening in that part of the world where human beings have lost much of the essence of which they were so proud and which differenciated them from other societies guided only by instinct. The Earth, our common home, is exhausted from repeated attacks on every side by selfish, gluttonous people, whose egoism has attained a summit: kill, pollute, destroy...there seems to be no limit. How can we forget the thousands of children who die each day in Africa, Latin America...others who suffer from disease, malnutrition, and without sufficient education to ensure a better, more decent life.

We all hope we can remedy this situation to give the Earth another million years and leave our children a nest in which life can blossom and flourish.

CARE, CARE, CARE!

Henry Kraus
Specialist in Medieval Art
Paris, France

I recently heard about the plan to "restore" the medieval painted decoration of Amiens Cathedral's western facade and am sick with worry about it. The reason is that we have seen other similar attempts made in recent decades which have had disastrous results. It's quite evident that Frédéric Thorel, the man in charge of the experiment, knows nothing about this background or he would not make such extravagant claims for it as quoted in *UNESCO Sources* January 1993 issue: "*Why shouldn't we restore the polychrome decoration of the main doorway, so that it is just like it was in the Middle Ages?*"

It is as though Amiens' painted medieval exterior were intact in its original state and had merely been covered by a depth of crass and pollution that had effectively preserved it. Nothing could be further from the truth. The facade sculptures of Gothic cathedrals were indeed painted but they were repainted over and over according to changing artistic tastes during the passing centuries and the question is, as Stephen Murray asks in the same article: "*Which* (layer) *would we choose?*"

The trouble with Mr. Thorel is that he has become enamoured with a "new technique" (laser). This is a great danger among contemporary authorities. I recall, for example, the case of the famous frescoes by Giotto di Bondone in the Church of Santa Croce in Florence on which an ambitious restorer tried his new methods shortly after World War II. He purported to show that by the use of X-rays he could identify the paint that had been added early in the 19th century. This paint he then proceeded to obliterate bit by bit. The result was that figures in the frescoes ended having a ghastly speckled appearance, as if they were suffering from some disease.

The terrible danger in such experiments is that errors once committed cannot be corrected. The unique Gothic monuments are too precious to be subjected to them.

There are many other medieval treasures that can be helped by safe methods. The precious sculpture in Chartres' south porch should be consolidated before it crumbles to bits. But, above all, what is quintessential in such work is care, care, care! Over the centuries an enormous proportion of our ancient artistic heritage has disappeared. Let us not hasten the process by reckless restorative techniques, guided by misplaced enthusiasm and ignorance.

TO SHARE WITH STUDENTS

Ms. N. Selemouch
Professor
Department of Zoology
University of Jaffna, Sri Lanka

Thank you very much for the up-to-date information on problems of the environment, notably on the Venetian Lagoon in your January (No. 44) issue, which I promptly included in my lectures for special degree students. In this region the mail takes two to three months to reach us due to the disturbances and we have access only to limited science journals. I have been on your mailing list for more than two years and always look forward to *UNESCO Sources* for good up-to-date information on varied topics.

READER'S RIGHT

PRIORITIES

While it is probably too early to judge the results of last year's Earth Summit in Rio de Janeiro, it has become clear over the 12 months since that the hopes and expectations of the conference lie in the hands of people more than political leaders.

There are some positive signs. The election of the Clinton/Gore administration with its commitment to renew US leadership on the issues dealt with in Rio, is a major plus and certainly, the governments who met in Rio have had to deal with other "here and now" problems such as economic, political and sometimes security pressures. But overall results are disappointing.

Lack of money is not a valid excuse. We've always been willing and able to respond to any security risk that we felt was vital to our future. We must recognize that the issues on which Rio was focussed are the most fundamental and important security challenges we have ever faced and must be given the same priority we've always been willing to give conventional security interests. Financing Agenda 21 is a matter of reorienting our present resources.

More positively, at the grass roots level, there are extremely promising and exciting developments. Non governmental organizations have produced a literal storm of initiatives all around the world that are clearly going to percolate up to the political process. Agenda 21, in this respect, is having a tremendously pervasive effect. In early April, for example, I attended a meeting in New York of organizations representing 12 million engineers around the world who're making sustainable development and Agenda 21 their central professional commitment.

The aspirations voiced at Rio are ambitious, certainly, but indispensable. What kind of weak and faint heart would argue that we shouldn't try to save our world? The minute we say that it's too ambitious, we've already settled the planet's fate.

Maurice STRONG
Chairman of the Earth Council and former Secretary General of UNCED.

Tapping precious reserves.

Out of the kitchen and into the classroom.

A crowded planet.

Cover design : Dominique Matte

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BOOKS

INVENTORY OF MONUMENTS AT PAGAN

Pagan, former capital of Burma (1044-1287) now Myanmar, *"has more than once been likened to a resplendent jewel in its magical setting on a bend in the Ayeyawadi River which flows from the northern highlands of the country down to the Andaman Sea,"* writes UNESCO Director-General, Federico Mayor, in his preface to this volume, the first of a comprehensive nine-volume inventory of the architectural riches on the site. Following extensive damage caused by a huge earthquake in 1975, the Government appealed to UNESCO for help. The result, since 1980, has been three UNESCO projects, financed by UNDP, which have contributed to the surveying, restoration and rehabilitation of the Pagan monu-

ments. As part of the ongoing Myanmar/UNESCO/UNDP projects, an inventory of the 2,217 temples, pagodas and monasteries that make Pagan one of the great archaeological treasures of Southeast Asia has been underway since that time. This first richly illustrated volume, covering Monuments 1-255, will provide scholars and researchers with an invaluable work of reference. When completed in 1997, the nine volumes will stand as an admirable achievement of scholarship in the service of our common cultural heritage.

● ***Inventory of Monuments at Pagan, Volume I, by Pierre Pichard, UNESCO 1992, 409 pp., illus., introductory texts, drawing conventions and terminology trilingual English/French/Myanmar, 650 FF.***

THE PRACTICAL INTELLECT: Computers and skills.

The epistemology of professional knowledge is a relatively new area of research, concerned with the development and maintenance of professional knowledge at the individual, work-group and community levels. One of its main aims is to illustrate the effect of information technology on professional knowledge and to create the basis for a sound social and productive implementation of new technology in the workplace. The book, written by Swedish mathematician and working life scientist Professor Bo Göranzon aims to define the contours of this new research field. Through a series of case-studies, it examines the conflict which arises when new technology competes with existing professional knowledge. It also examines the historical development of the computer as a tool, the scientific and intellectual traditions which have shaped current design approaches and, finally, the problems of balancing technology, human knowledge and working practices.

● ***The Practical Intellect: Computers and skills, by Bo Göranzon, UNESCO/Springer-Verlag 1992, 113 pp., 180 FF.***

PERIODICALS

MUSEUM INTERNATIONAL

Museums of war and peace. The main dossier in this issue (No. 177) is devoted to "museums of memory and reconciliation" which, from the beaches of Normandy to the concentration camps of Sachsenhausen and Auschwitz to Hiroshima have been built around the sites of humanity's cruellest war. *"Alongside them,"* writes Editor Marcia Lord, *"a new generation of museums has sprung up to present the dynamics of peace through art and to demonstrate the power of the artist to shape public consciousness around the concept of peace".* Articles present a variety of approaches - permanent displays, temporary exhibitions and the preservation of historic sites - used by museums to focus on the "how" and "why" of war

and peace and, by so doing, involve their visitors in a process of questioning and reflection. Readers will note that the magazine is now entitled *Museum International*, a change which more accurately describes its unique scope and audience.

INTERNATIONAL SOCIAL SCIENCE JOURNAL

Innovation in industry, technology and society. Innovation, the introduction of a new method or device, may take place on many levels - goals, procedures, and products, in all the diverse activities of humankind. In this issue (February 1993) specialists examine a selection from the wide range of forms of innovation, including the marketing strategy of business firms, organization of a university, weaponry of an army, provision of public services, and the planning of urban development.

THE UNESCO COURIER

Water of Life. From the beginning of time, men and women have pondered on the mysteries of water. Addressing this theme, the May *Courier* describes how water was shrouded in imagination and myth up until the 17th century when it became the object of a modern science. Articles address the critical issues of underground water, the increasing scarcity of a resource long considered inexhaustible; climate change and the impact of human activities on both terrestrial and marine systems; shortages in Africa and the plight of the water seekers/bearers, inevitably women. Others take stock, 25 years after its construction, of the Assouan High Dam, and describe UNESCO's action through the International Hydrological Programme. An interview with French scholar, Charles Malmoud, a specialist on the religions of ancient India, opens the issue which also includes a letter from the Editors thanking over 100 readers in the "North" who answered an appeal in the February *Courier* by offering *"solidarity subscriptions"* to schools, universities or libraries in the "South".

RECORDS

INDONESIA: MUSIC FROM WEST JAVA

The musical art of the Sunda region which covers nearly a third of the Indonesian island of Java, can be traced back to the 15th century. On these recordings, some of the finest examples of gamelan music are interpreted by an orchestra, composed of xylophones, drums, metallophones and gongs, to which may be added a violin or a flute. Sundanese music includes popular forms as well as music of the former royal courts and sometimes accompanies singers or dancers. The melodies, tuned to various modes, including the *salendro* (five-note scale), are developed with a profusion of different timbres and rhythms.

● ***Indonesia: Music From West Java. Anthology of Traditional Musics. UNESCO/AUVIDIS 1992, Cassette 52F, CD 109F.***

Publications and periodicals are on sale at the UNESCO Bookshop, or by order from UNESCO Publishing, 7 place de Fontenoy, 75352 Paris 07 SP, and in Member States through national distributors. Catalogue on request.

LEAVE SAEM: PICKING UP THE THREADS

Leave Saem's house is a collection of weaving looms, antique furniture and paintings of traditional Cambodian dancers at the ancient temples of Angkor Vat. The rooms have a pervasive mixture of smells, predominantly dyes and frangipani.

From his window, 60 year-old Saem looks across a dusty courtyard to a new timber and tile building, the roof of which features high curling ends, characteristic of classic Cambodian architecture. Above the entrance is a stucco impression of Reahu, a Cambodian god who symbolises brotherly love.

This building is Saem's dream come true: a training center for young weavers to carry on an ancient tradition, which temporarily disappeared and is now making a come back - with help from UNESCO which considers this *"one of the most important living but seriously deteriorated cultural heritages in Cambodia"*.

A ROYAL FAVORITE

The youngest of seven children Saem was brought up in a renowned silk-weaving family in Tual Lolork village in Takeo province, south of Phnom Penh. At the age of 13 he began his career as a master silk-weaver. *"I wanted to make the best silk, I wanted to be much better than the other people,"* said the weaver who now lives in Phnom Penh.

From Takeo his family's silk found its way into the finest homes in Cambodia as well as Europe, Japan and the USA - and into the Royal Palace where it was a favourite of the Queen Mother, Kossamak Nearyroith. *"The queen mother liked to wear the silk of my mother,"* said Saem proudly producing an old black and white photo of the royal dame.

"When the queen mother needed silk for herself we wove special silk, but if she needed silk as a present for others, it was not as special. The simple silk in the market cost 600 riel but she gave 2000 for our silk. She knew it took half a year to make a sampot length for her," said Saem, referring to the beautiful straight skirt traditionally work by Cambodian women for formal occasions.

LEAVE SEAM WITH HIS STUDENTS (Photo Sue Downie)

During the civil war and the American bombings of Cambodia in early 1970 the people of Tual Lolork village fled - along with more than two million other rural dwellers - to Phnom Penh where many of them lived in refugee camps or with relatives. Very few families continued weaving; the ancient art disappeared completely during the 1975-79 Khmer Rouge regime.

Saem and his family spent their "Pol Pot years" at Thmar Pouk in the far northwest of the country where he was forced by the Khmer Rouge to weave cotton kramas - chequered Cambodian scarves traditionally worn by peasants but used by everyone during the Pol Pot era. *"They didn't want me to have free time so when there was no cotton to weave they told me to clear land and make new fields."*

The Khmer Rouge forbade luxuries, Western items, currency, religion and any form of art, but surprisingly, according to Saem, they allowed people to continue tending mulberry trees and feeding silk worms.

At the end of the *"killing fields"* era, Saem returned to Phnom Penh then began seeking out silk and looms. *"At that time we had no money so we paid for everything in rice. One loom cost 20 cans of rice,"* he said referring to condensed milk tins which were a standard measure for rice. *"I made rice cakes then walked around selling them because at that time there was no market. I sold cakes for two years."*

Saem's house-to-house sales allowed him to ask for information about looms. Finally he was able to buy three looms, acquired some silk from families in rural areas, then began weaving again.

Fourteen years later Saem runs a home-industry, employing relatives and 10 looms, and he is once again producing what is generally regarded as the best silk in the country. The operation is small-scale but high quality.

TRADITIONAL LOOMS

Now UNESCO is helping Saem revive Cambodian silk weaving by establishing a weaving school beside his family-run weaving centre. Traditional looms are being made and students have been selected from old silk-weaving areas in the hope that they will return those skills to regions which once produced some of the finest silk in Asia.

"The quality of silk products here has been going down because the raw material comes from Vietnam and the quality of raw silk is not as refined as it used to be in Cambodia," said Keiko Miura, UNESCO's Assistant Culture Programme Officer. *"It's coarse and the yarns split very easily. Mr Saem is now the only weaver we know of who uses natural dyes,"* she said.

The project is being financed from UNESCO's World Decade for Cultural Development funds, with $33,000 from the British Government and $20,000 from the Soka Gakkai International, a religious-cultural Japanese organisation specialising in education, cultural, welfare services.

Sue DOWNIE
Phnom Penh

● **THE UNITED STATES IS CONSIDERING REJOINING UNESCO.** The State Department announced on April 19 that it was reviewing UNESCO's programme and budget for 1994-95 "to *determine if the benefits of membership would justify the costs*", which have been estimated at between $60 million and $70 million annually. The announcement coincided with an editorial in the Washington Post urging the U.S to return to the Organization and praising Director General, Federico Mayor, for rehabilitating UNESCO as a *"forum of free expression"*. The United Kingdom, which pulled out one year after the U.S in 1985, has also indicated its willingness to rejoin.

RIO : ONE YEAR LATER

A year ago the Earth Summit in Rio called for radical action to save our world. What has happened in the 12 months since? While many would argue that the mobilisation that has taken place up to now does not measure up to the problems at hand, hopes remain generally high (see below). Important global surveillance networks are being established for example. One of them, led by a French scientist, is charged with studying the oceans (p.9), while another is devoted to fresh water (p.15). Biodiversity is another priority (p.10) that has seen positive action, while the domains of education (p.11) and information (p.14) are undergoing a major rethink. Most importantly, a spirit of cooperation and cordination has emerged between the various actors (p.16), amongst whom UNESCO is one of the main players (pp.12-13)

Almost one year ago, in Rio de Janeiro, *"the biggest summit ever organized"* took place. Remember? One hundred heads of state, 8,000 delegates, 9,000 journalists, and 3,000 representatives from non governmental organizations, came together for the United Nations Conference on Environment and Development. What has this unprecedented event achieved? Texts? Certainly. The *"new world partnership for sustainable development"*, called for in Agenda 21? Undoubtedly. New funding? Not really.

UNCED kicked off a preparatory process, begun in 1989 and placed under the auspices of the General Assembly of the United Nations. From the start, this process was universal. All States in all regions were included. Every organization within the UN system cooperated with the secretariat set up by Maurice Strong. From this point of view, the Rio texts reflect a worldwide concensus on the action necessary to achieve sustainable development.

The two conventions drawn up for Rio, on climate and biodiversity, were signed by 150 nations. The United States, which at the time refused to put its signature to these documents, has recently announced that it will now do so.

The convention on climate change has been justifiably criticised for its gaps, most notably the absence of any quantitative engagement to reduce greenhouse gases. This, however, is the price that was paid in the name of concensus. And this convention, completed by more precise protocols could provide the basis for concerted action.

Agenda 21, the follow-up programme established at Rio, even with its vague formulations and general recommendations, contains precise objectives and calendars to achieve such goals as waste, soil and water resources management.

And yet Rio's main actors are divided in their reactions to the results of the efforts made since the conference.

DETERMINATION LACKING

Some are violently critical. For Warren Lindner from the Geneva-based NGO, the Centre for Our Common Future, *"we have not come very far at all"*. *"Non binding agreements and agendas for action and unenforceable declarations of principles are simply not enough"* he stresses. Even recognizing that Rio saw a *"herculean effort made to convince the global community of the need for change"*, he believes the determination necessary for such change is lacking. *"We clearly lack global and national political leadership in respect of most of the issues addressed in Rio. And this applies to both the North and the South"*.

Francesco di Castri, named by UNESCO Director General, Federico Mayor, as chairman of a consultative follow-up committee to Rio, thinks much the same. But, like Maurice Strong (see p.3) he believes *"the Rio spirit"* is alive and well in the front formed by citizens, societies and non governmental organizations.

Should we then write Rio off as a gigantic fraud? The reactions of disappointment are perhaps understandable, particularly as far as funding is concerned, but they tend to ignore the essential, and mask a situation that is much more complex.

In fact, the challenge set by Rio requires a veritable revolution in methods of production, lifestyles, government and education. However, revolutions do not happen from one day to the next, or even over the course of one year.

Even Warren Lindner admits that *"we were expecting more from UNCED than it could give"*. *"The state of the world demands radical change. It is not difficult to see that we cannot continue very much longer with the environment in the state it is, with a swelling population and the existing financial imbalance,"* he says. But at the same time, he acknowledges, *"we cannot change the world in 15 days"*.

DECISIVE IMPACT

The real impact of the texts adopted in Rio will only be felt in the long term. In the meantime, despite the inherent constraints of international organizations, an impressive diplomatic machine has been set up in very short time. The Commission for Sustainable Development was created by the UN General Assembly towards the end of last year and will hold its first meeting in June in New York. To the "Riosceptics" who would dismiss *"yet another commission"*, it could be answered that, on paper

at least, this one has given itself the means to have a decisive impact. States must provide it with information on the measures undertaken to implement Agenda 21; non governmental organizations will be able to participate, and its deliberations should result in more *"operational"* conclusions than the texts usually prepared by such institutions.

The negotiation committee for the desertification convention has also been established and will meet for the first time in May in Nairobi and should be ready by June next year. A conference on small island states will be held in Barbados, also in 1994, while another on the fishing industry is planned for July in New York.

"THE STATE OF THE WORLD DEMANDS RADICAL CHANGE" (Photo United Nations/FAO/F. Botts).

To a certain extent, Rio has revitalized the dialogue between North-South, setting a new base for discussions, and providing a different ideological context to that of the 1970s. That the industrialized countries join forces with the developing nations to make environmentally rational development a common goal represents a major step foreward in itself.

This partnership is not limited to states. It includes NGOs, the private sector, and the scientific community to which the Rio texts constantly refer. The mobilization of the NGOs and their involvement in different conferences and follow-up committees indicates their solid commitment to the process. National commissions for sustainable development, including NGOs, have been set up in several countries such as Canada, throughout Africa and Asia.

The partnership should include a financial dimension, essentially in the form of transfers to the South. From the start of the preparatory negotiations, the subject of resources has been considered as crucially important. This question was, along with the fate of the forests, the last to be dealt with in Rio, and the resulting *"financial packet"* relies on several supports: chapter 33 in Agenda 21, which contains general commitments concerning *"new and additional"* resources, the announcements made by various States during the conference, and the verification that these commitments be met by the Commission of Sustainable Development.

It is difficult to quantify the extra resources generated so far by Rio. No calendar was set for countries to put aside the agreed 0.7 percent of their GNP for development aid. Rough estimates, however, would indicate that the conference has raised only about one billion dollars in supplementary resources for the South - hardly more than the normal increase in public aid. Even so, external resources are not everything. To have a clearer picture, we would have to evaluate on a national level, how much countries are devoting to the implentation of Agenda 21.

On the basis of initial, admittedly vague commitments, the results are very poor. The fate of two, spectacular announcements made at Rio, serve as revealing examples. The President of the World Bank had proposed an "Earth increment" to the resources of the Bank's International Development Association (IDA). This "increment", amounting to several billion dollars, should have been negotiated by donors during the 10th replenishment of IDA's resources. In fact, the negotiations achieved little more than a renewal, in real terms, of the funds made available at IDA-9.

In the second case, Portugal, in the name of the European Community, announced a four billion dollar plan to finance Agenda 21. Since then, the EEC has been debating how this sum should be divided up between its Member States.

In the coming months, the coffers of the Global Environment Facility managed by the World Bank, UNDP and UNEP, will need topping up, providing another test of the capacity of industrialized countries to turn words into action.

The financial difficulties can, in part, be attributed to budgetary defecits and economic recession in donor countries. However they are also the result of a certain ordering of priorities in these countries, which have chosen to give precedence to other urgent problems such as national unemployment and international peacekeeping.

A LONG-TERM PROCESS

Disappointing as they may be, these initial results should not lead to the dismissal of UNCED as an impossible quest. As Gisbert Glaser, Coordinator of UNESCO's environmental programmes points out *"the recession will not last forever". "Agenda 21 has the advantage of being ready to go once the economy turns around."*

His optimism is echoed in the comment often repeated by Maurice Strong that Rio was not just an event, but the launch of a long term process whose results will be judged in the decades to come.

The scientific community is also thinking along these lines. While the Executive Director of the International Council of Scientific Unions, Julia Marton-Lefèvre, deplores the heavy bureaucracy of international organizations and the barriers that continue to separate them from the non-governmental sector, she is *"not disenchanted". "Rio has forced everyone, even us, the scientists, to think of environment and development as a pair. And that is no small achievement."*

The NGO network is more active than ever and has upped the pressure on governments to ensure that they move in the right direction. The UN Secretary General, and the entire UN family, have made the follow-up to Rio central part of their action.

Further encouragement has come from the new administration in Washington. The announcement that the U.S would sign the Convention on Biodiversity, review energy taxes and increase foreign aid for environmentally sound projects, indicates a new spirit in the White House.

Only yesterday, the environment was still a largely neglected subject. Today, after the birth in Rio of eco-diplomacy, it has become an integral part of foreign policy in most states. There is still plenty of room for hope.

André LAGARDE,
New York

EXPLORING THE FORGOTTEN CONTINENT

"We are only at the beginning of what needs to be done" says the new boss of the Global Ocean Observatory System, Michel Glass.

Even when tackling serious issues, Michel Glass, 49, never seems to stop laughing. It thus comes as no surprise that he is not one of the grumpy "Riosceptics" He believes that he can detect a real *"change of heart"* since the Rio Earth Summit. But, realist as he is, he thinks that *"it will take 10 to 15 years for attitudes to change"*.

The Global Ocean Observing System (GOOS) in fact existed in embryo form and held its first intergovernmental meeting in Paris last February but it is Michel Glass's job to put it on its feet. It is thus planned to launch some pilot projects in 1995 and gradually build the network up to full size by the beginning of the next century. But it might not be fully operational until 2010.

A key element in the overall system that will study our planet is thus in the making. Oceans cover over 70 per cent of the globe, play a decisive role in shaping climate, and contain a huge quantity of mineral resources and living matter. They are also a vast reservoir of gases and are constantly modifying the atmosphere through the exchanges that they have with it. Among other things, they absorb, store and redistribute a huge quantity of carbon dioxide, the accumulation of which plays a fundamental role in the "greenhouse effect" which is being spoken of so much. Any change in this interaction will thus have a great effect on the process of global warming which is of such concern to scientists.

COMPLICATED AND COSTLY

Given the scale of these questions, the oceans might be compared to a sixth *"forgotten continent"*. Their observation certainly seems to be very much behind that of dry land, no doubt because it calls for complicated and costly systems. There are hardly any ocean monitoring stations in the Third World, and the Eastern countries' networks are in the process of collapsing. Even Germany is finding it difficult to maintain the infrastructures which existed in the GDR!

"We are only at the beginning of what needs to be done and planned" the new Chairman (for two years) of GOOS readily admits. He nonetheless emphasises the help which is being given by the increasing number of cargo ships that are agreeing to gather information on their voyages and, above all, the very important contribution which will be made by satellite observation.

The principle of the system is that it is based on the already existing scientific research networks. What is new is the operational nature of the new system, the purpose of which is to gather data, store it and exploit it with a view to arriving at practical decisions. Priorities are thus established in terms of the extent to which they provide for needs.

As a result, the following research modules have been chosen: climate prediction, marine living resources, the management and development of coastal zones, the health of the ocean (this includes pollution problems -something about which the international community is still doing very little) and an ocean meteorological service. They have been chosen because it is possible to open up a dynamic of a practical kind.

The undertaking is an ambitious one. Michel Glass, an astrophysicist by training, likes to compare GOOS with the World Meteorological Organization. *"To start with, it was found that weather forecasts could be made a day in advance and it was quickly realised that this was a matter of world-wide importance. An international organization was then set up, which is now the powerful WMO"*. Today, in the case of the oceans, *"it is beginning to be realized that ocean movements can be forecast. And oceans, just like the climate, have no frontiers. They are world-wide."*

$2 BILLION

The Intergovernmental Oceanographic Commission of UNESCO is the "leader" in this programme with which WMO, the United Nations Development Programme and the international scientific organization ICSU are also associated. Michel Glass divides his time in the Paris area between teaching, research work and programme supervision in many different bodies but he apparently believes that he will not have any difficulty in moving from one to the other. The annual budget when GOOS is fully operational is expected to be $2 billion, which is about the same size as for operational programmes in the field of meteorology.

Michel Glass emphasizes that *"this operational system is important because it provides a real response to the expectations of the developing countries"*. It is easy to imagine, for example, how much a country like Bangladesh would like to have reliable data about rising water levels. *"In addition, fishing is an essential economic activity in many poor countries and they therefore need forecasts about the way species will evolve which can help them to manage their fish stocks"*, he said.

He does not find it strange that a European should have been thus chosen as Chairman, given that his first task is to raise funds for a project which does not really have a budget yet. He thinks it is only natural, during this start-up phase, that a rich country with a strong tradition of oceanographic monitoring was chosen.

For him, the great post-Rio challenge is that *"the expectations of the developing world must be met. But will the industrialized countries go along? That is another question"*, which he clearly does not try to answer.

Nicolas MICHAUX

TERRA INCOGNITA

Biodiversity has become one of the priorities of UNESCO's Man and Biosphere Programme (MAB). Why? French specialist Christian Lévêque explains.

Biological diversity was at the centre of discussions at the Rio Conference. Population growth and the demands of development involve a major assault on nature and ultimately the disappearance of many plant and animal species. The predicted future increase of this trend in years to come is a major source of concern and has pushed several countries to think about how to reconcile development with conserving the environment and the forms of life it supports.

The concept of biodiversity is very complex and embraces different elements, often complementary but also very distinct. The debate about biological diversity follows the philosophical debate about the relationship between man and nature. For some people, nature exists to serve human beings, who must control it to use its resources. For others, people are part of nature and must obey the same ecological laws as other species. So the global ecological processes which guarantee survival of the human species must be protected.

HOW MANY SPECIES?

Policymakers generally respond to this ethical and philosophical approach with practical questions: how many species are there? How quickly are they disappearing? What are the implications for human beings? But scientists are very hard put to answer these questions. Nobody really knows how many living species there are. Somewhere between three and 30 million, perhaps more. Only a few groups have been thoroughly counted. On top of that, for example in the case of bacteria and viruses, a species is hard to define while the world of micro-organisms has been barely explored.

But scientists see biological diversity as the result of a long evolution of species and migrations in a changing climatic and geomorphological context. It is thus international property, the result of evolution itself, and something which justifies continued research into the causes and workings of species.

Biological diversity is essential for ecosystems to regulate themselves and adapt to human or naturally-caused change. Genetic diversity is a main root of biological diversity, which allow species to react differently to environmental change. Knowledge of the function of biological diversity is especially important in view of the climatic changes predicted for the next few decades.

The Rio Conference showed that biological diversity was an important economic factor for many countries. Nature is a huge "genetic library" which the biotechnology industry can dip into freely to expand the gene pool of plants and domestic animals. Nature is also a potential source of molecules for pharmaceutical and industrial use. Industry demands free access to these biological resources but wants to protect with patents the strains and products developed after long and costly research. But in the countries of the South, biodiversity has been considered a big reservoir of biological resources to be used to establish local industries.

ABSOLUTE RIGHT

The Rio Convention on Biodiversity reiterates that countries have an absolute right to their natural resources. They can therefore grant a private company the right to search for and use their biological resources. It should be noted that many plants come from tropical or sub-tropical countries. There are still many wild species, closely related to domesticated species, which can be used to develop new strains. So future agricultural development partly depends on their preservation.

With economic development of the South recognised as a priority by the Rio Conference, biological diversity must be preserved in a context of sustainable development. For that, you need finance, knowledge and new methods.

Biological diversity - our heritage and at the same time an important economic factor - is at the root of our relationship with nature. We are all more or less concerned about its future, which partly depends on which development model is chosen. Skills are being mobilised to tackle this immense problem. The Diversitas programme, sponsored by UBS, Scope and UNESCO, for example, stresses the role of biodiversity in working ecosystems. The World Food Programme has set up a genetic resources programme. Backed by the World Bank, the Global Environment Facilities is supposed to help poor countries finance national conservation projects. Success depends on developing national capacities and on the education and level of awareness of the population involved.

Christian LÉVÊQUE
ORSTOM, Paris

DIVERSITAS

For its part UNESCO, with the Union of Biological Sciences, and SCOPE (Scientific Committee on Problems of the Environment) has launched the Diversitas programme which aims to provide a coherent framework for research on this theme through the MAB Biosphere Reserve network.

It has chosen three main lines of approach: the functional role of biodiversity in ecosystems; modes of birth, life and death; and the observation of changes underway (it has been estimated that the rate of species extinction is one thousand times higher today than in the past).

Diversitas will also explore two remaining, largely unknown, domains - marine biodiversity and that of micro organisms (of which only five per cent of species have been identified) and establish a pilot network of research stations. In the first phase 25 terrestrial sites will be set up in different ecosystems, ranging from tropical forest to tundra, with a complementary network for marine biology.

MISSION IMPOSSIBLE ?

While they disagreed on many issues, everyone at Rio agreed that education was a sine qua non of sustainable development. But ...

In the town of Joutseno, in eastern Finland, a group of children at the municipal Day Care Centre have just taken a walk.

"We followed tracks to guess which animal had been around," said 5-year old Esa-Pekka. He and his classmates are not only acquiring a love and respect for nature, but as part of a pilot programme, begun last year at day care level, are also forming new consumer habits by reducing wastes, recycling, etc. There are, for instance, no plastic toys at the Centre, no more paper plates or goblets. After a snack, the children wash their own porcelain mugs.

The programme falls in line with a "National Strategy for Environmental Education," published in 1991 by the Finnish National Commission for UNESCO. After a survey of existing activities, Finland being an "early bird" in this field, the "Strategy" points out deficiencies and areas for improvement in and outside schools, from maternity clinics, through trade unions to the highest decision-making levels.

"It is hard to evaluate this kind of document," said Tapio Markkanen of Helsinki University who chaired the UNESCO working group. *"Let's just say it may not inspire people who are indifferent, but it certainly works as a support for those who care about the future."*

NATIONAL STRATEGIES

In addition to Finland, the International Environmental Education Programme (IEEP) set up by UNESCO and UNEP in 1975, has, over the last three years, helped 11 other countries prepare national EE strategies. Currently, with UNDP funding, it is providing the same assistance to five Latin American countries (Colombia, Costa Rica, Ecuador, Mexico and Paraguay).

Since its creation, the IEEP has organized activities in some 160 countries, distributed educational materials to more than 150,000 institutions and individuals, contributed to the training of more than 30,000 key personnel, and published a newsletter, *Connect*, in eight languages.

UNESCO has, in fact, been addressing these issues for over 40 years, through IEEP but also the Man and the Biosphere (MAB) Programme, and, particularly essential to sustainable development, through its efforts to ensure Basic Learning Needs and reduce illiteracy, a high priority since the World Conference on Education for All (Jomtien, Thailand, 1990).

The "fundamental principles" on education in Agenda 21, the UNCED action plan, come explicity from Recommendations of the Tbilisi (Georgia) Conference, organized by UNESCO and UNEP in 1977, and reiterated 10 years later in Moscow. Agenda 21, moreover, invests the IEEP with responsibility for implementation of certain recommendations on education. This said, everyone agreed that education had to be re-shaped and re-oriented.

"The Rio Conference recognized that education and public awareness are indispensable for sustainable development - to drive the change in values and behaviour needed to accompany new knowledge, policies and laws, new technologies, products, etc.," said Jeanne Damlamian, a founder and prime mover of MAB.

"Education is now seen in a broader context," she said, *"not relevant just to schools and educators, but to all sectors of society, including government, business and industry, and the scientific community. Reorienting education for sustainable development needs to be a multi-sectoral undertaking which taps society's best resources: the most accurate, up-to-date knowledge, the most effective communication techniques - and a lot more money!"*

A big order! In fact, according to Harold Hungerford, of the Science and Environmental Education Centre at Southern Illinois University (USA), it may be a kind of *"mission impossible."* Prof. Hungerford is coordinating revision of five documents - on curriculum and teacher training at Middle Level - out of 10 in the IEEP Document series being thus revised in the light of Rio.

"There's a considerable body of literature," he said, *"but the concepts and issues of sustainable development - population, energy, etc. are not entering curriculum very fast. There's a lot of good will, but no one knows exactly how to do the job."*

FINNISH CHILDREN LEARNING TO LOVE AND RESPECT NATURE (Photo Paivakoti Tapiola).

The truth is with issues increasingly complex, the name of the game today is decision-making and problem solving. UNESCO's new "Prototype EE Curriculum for Secondary Schools in the ASEAN Region", for instance, asks students the following:

Situation: A multinational company proposes to build a copper-smelting plant in country X which has abundant, underexploited copper deposits. Some new jobs, small business, services, etc. may result. But there may also be long-term negative effects on water resources of the province... Problem: As a member of the Provincial Council what will be your stand, and why?

"Education is a long process," said Abdul Ghafoor Ghaznawi, Head of UNESCO's EE Unit, *"Here you can't just apply ointment to a wound and expect a quick cure. You're working to change values, attitudes, behaviour and lifestyles. This can't be done overnight."*

Betty WERTHER, with
Tutta RUNEBERG, Helsinki

AGENDA 21 AND UNESCO

UNESCO, in its role as a meeting point for education, science, culture and communication, has a distinct advantage in the implementation of Agenda 21. The chart outlined below provides an overview of the Organization's activities in the post-Rio period, which have been revised and refined in accordance with the recommendations of Agenda 21, marked in red.

TERRESTRIAL ECOSYSTEMS

The essential goods and services on the planet depend on the variety and variability of genes, species, populations and ecosystems. The loss of the world's biological diversity, mainly from habitat destruction, over-harvesting, pollution and the inappropriate introduction of foreign plants and animals, represents a serious threat to human development.

UNESCO, through its Man and Biosphere Programme (MAB), will contribute through:
-the implemetation of the Diversitas programme, undertaken with the International Union of Biological Sciences (IUBS), and the Scientific Comittee on Problems of the Environment (SCOPE), which will serve to increase scientific knowledge on marine and microbial biodiversity;
-The recording and utilizing of traditional knowledge on biological diversity for a better use of plant resources (People and Plants project, in partnership with the World-Wide Fund for Nature (WWF).
-The development of a Global Terrestrial Observing System (GTOS) and increased surveillance of desertification in Africa.
-The reinforcement of the international network of biosphere reserves and the improvement of 20 of them for global change studies.

FRESH WATER

There is no life without fresh water. As in other domains, human activities must adapt to the limits of nature's capacity to absorb their impact. Global climate change and atmospheric pollution could affect fresh water availability and threaten ecosystems, particularly inlow-lying coastal areas and small islands.

Through its International Hydrological Programme (IHP), UNESCO will
- undertake studies with ICSU's International Geosphere/Biosphere Programme to better understand the hydrological component of the climate system, especially terrestrial-atmospheric water transfer.
- evaluate changes in water quantity and quality resulting from population growth and climate change scenarios in the humid tropics.
- study the rational use and rehabilitation of the limited freshwater systems of tropical islands.
- provide support to Member States, especially those in arid and semi-arid areas, to study the water cycle, establish guidelines to better manage changes in water quality due to human activities and prevent flooding of low-lying deltaic areas.

SOCIAL SCIENCES

The connections between human activities and the environment needs to be better understood. To achieve this, the social sciences should be better integrated with physical and economic sciences.

UNESCO through its programmes is
- pursuing social science research and its relevance to sustainable development, particularly through MOST, the Management of Social Transformations programme.
- encouraging the transfer and sharing of social science knowledge as well as providing support to Member States to increase their institutional capacity in this domain.
- increasing the role of the social sciences in other science programmes.
- creating some 10 UNESCO Chairs of Sustainable Development, which will eventually lead to the creation of "centres of excellence" to counsel political decision makers.

TOWARDS SUSTAINABLE DEVELOPMENT

UNESCO's mandate, interdisciplinary character and experience, mean the Organization is particularly well equipped in three domains to implement the UNCED recommendations:
- training and "capacity building" in developing countries (i.e. improving human, scientific, technological and organizational capacity, as well as extending the capacity of resources to confront complex environment and development issues);
- public education and provision of scientific information to decision makers;
- dealing with the scientific issues related to biodiversity, the oceans and fresh water.

UNESCO's activities in these fields has been reshaped and reinforced in keeping with the spirit of cooperation encouraged by the Earth Summit. The Organization is, of course, working hand in hand with the other specialized agencies of the UN family and in the non-governmental sector.

In accordance with UNESCO's own UNCED follow-up committee, comprising five experts from outside of the Organization, four intersectoral "initiatives" will be launched in 1993, complementing the activities outlined here, including: capacity building,information, biological diversity and assisting and encouraging an interdisciplinary approach to sustainable development by the sciences.

OCEANS

Human activity poses a serious threat to the biological richness of the oceans, which cover no less than 70 percent of the Earth's surface, and coastal regions, which are home to 60 percent of the world's population. Sedimentation, pollution and harmful fishing practices and climate change pose the greatest menace.

UNESCO, mainly through its Intergovernmental Oceanographic Commission (IOC), has given priority in this domain to narrowing down the uncertainties about the role of the ocean in climate and global systems. This will be carried out by:

- reinforcing research capacities in developing countries, and helping them to participate in regional and global programmes such as the World Climate Research Programme and the Global Ocean Observing System.
- launching projects to combat pollution, prevent coastal area degradation, and protect marine living resources.

EDUCATION AND INFORMATION

Education is a vital element in the promotion of sustainable development and the participation of all in achieving it. To this end, education should be reoriented, the quality of information should be improved and new partnerships formed to mobilise the support of a wide array of social and economic actors.

First and foremost, UNESCO promotes basic education, which UNCED recognized as necessary for further education in other domains, such as those dealt with in Rio. The Organization privileges research and action adapted to local contexts and problems, and integrating environmental, development and population questions. On top of the training and information provided by the main scientific programmes, including the social sciences, UNESCO also has two other essential instruments at hand: the International Environmental Education Programme run jointly with UNEP, and the UNFPA/UNESCO action scheme on population information.
More concretely, UNESCO
- is preparing an international framework for action, that will constitute a major contribution to the 1995 World Summit on Social development.
- provides support for the preparation or revision of national education programmes, with priority on the nine most populous countries, small island states and the least developed countries.
- will organize five regional workshops with the relevant UN agencies and NGOs to elaborate strategies and prepare information material on key themes for developing education, training and information materials.
- will launch some 10 pilot projects to develop education and training approaches and prototype materials for teacher trainers and education planners, as well as decision makers and opinion leaders.
- encourages the dissemination of information through major news agencies, NGOs, trade unions, professional and social groups.
- produces and disseminates periodicals, brochures, posters, such as Connect (IEEP), the International Bulletin of Marine Science (IOC), the MAB Digests (MAB), Environmental Briefs (MAB).

FACTS IN FIGURES

THE MEDIA: AT THE CROSSROADS

The media is the most powerful tool available for spreading information ... but which information ?

The Western media revealed the Chernobyl disaster with big headlines on April 29, 1986. Or what they managed to find out about it, mainly based on dispatches of Tass, the then official Soviet news agency, and the US agency UPI. Tass had announced it the day before and followed up the next day by reporting that two people had been killed. According to UPI, *"satellite pictures showed 2,000 dead."*

This was just the start of a stream of wild and contradictory rumours. The Soviet authorities said almost nothing. The US government feared the worst. The satellite pictures were never released. No expert came forward to point out that a nuclear reactor was not a bomb and that no such accident could kill so many people immediately. And European leaders disagreed as ever about the disaster's effects.

The world was provided with a prime example of subjectivity of information sources and the subjectivity of the media. First because of lack of solid information, above all about the effects of radioactivity. Then the public used the event to feed its ever-lurking fear of things nuclear, its raw anti-communism, its mistrust of technicians and its bitterness and contempt for politicians. Chernobyl was a classic case of how impossible "objectivity" is in reporting on the environment.

To begin with, an event is not in itself news. It becomes news when it has been touched by three elements: the source which reveals it, the person who transmits it and the customer who receives it. News is simply the combined subjectivity of the agents who make it reality.

The "public" is, in its way, one of the actors. Joe and Jane Public give the media the power to answer all their questions and then believe the news they receive instead of keeping their freedom to investigate the matter themselves. They forget that the media are, or should be only transmitters or intermediaries. Such are the problems and difficulties of daily life that they also want to feel looked after, to feel that problems have solutions, that things are either black or white, that life can be a simple matter. Everyone wants answers - people so as to soothe their fears, businessmen to be able to make decisions, and politicians to satisfy the voters or their constituents.

There is a noticeable absence of general knowledge on science and technology. The media is thus expected to expand its role and become a teacher. But this is not always possible as circulation and sales, by necessity, come first. Newspapers must be bought, the radio listened to and television looked at - and none can survive without advertising. The balance must be struck between the wants of the public, the editorial line, and advertising. This makes for continual pressure from individuals and institutions. Refusal to comply means either sources may not talk any more or else advertising, political support and sometimes financial backing disappears. The holy principle of press freedom is more a permanent compromise between w wants to say, and what one can say, offending either the public or on masters.

CONSTANT FLUX

At the other end of the spectrum scientific fact announced gives ris doubt. Partly because of the very n science, where doubt is the m progress. The last thing one should science is the expert whose findin to a firm conclusion. Scientific kn about the environment and develo even more inconclusive. For it is a discipline centred on a single ob Earth, all of whose closely ove components are by nature in consi For example, if scientists now kn the increased emissions which c "greenhouse effect" are the re development in rich countries, th all agree on what to do next. The must be found collectively and dually.

The media are constantly pus the public, by politicians, by indu - to favour this or that theory or p Some scientists, seeking the lim yielding to social pressure, take p often based on personal interpretatio their influence and financial bac pends a lot on the "popularity" work.

This collection of certain doubts requires commitments and according to the political vision society. It also depends on the link with the rest of the world. For the the fruit of an economic, social and system. In one way, the public o formation and the way it is de according to its own desires. From the ambiguity of the role of the me intermediary.

Only a change in these social fo push it to evolve. To the problem jective" information, we must ad possibility of being neutral in the p political and ideological contex found in both the North and the environment and development ma

Martine B

INVESTIGATE AND INFORM

UNESCO's major scientific programmes, and research projects in the social sciences, are not ends in themselves. Their aim is to provide reliable information which will enable men, women and young people at all levels of society to contribute to sustainable development. First of all, scientists because they themselves need to be kept abreast of what their colleagues are doing. For this reason, all of the scientific programmes have an information component. Secondly, decision-makers in both the public and private sectors who require the best, if possible scientifically established, facts and insights into choices. For them, UNESCO has prepared "MAB Digests" (13 titles published to date) and "Environment and Development Briefs" (seven titles). Finally, to inform the public, adults as well as young people, through education both formal and non-formal, the International Environmental Education Programme (IEEP - see p. 11) distributes a wide variety of materials prepared with partners in a broad range of fields.

OUT OF THE STONE AGE

Getting to know the water cycle better is imperative for the conservation of the planet's precious... and limited supplies.

Will the world always have water? A sevenfold increase in water consumption since the start of the century would indicate that the common belief is yes. But the assumption is wrong. Tragedies like Africa's big droughts and the drying up of the Aral Sea provide bitter evidence.

In the last few decades, coastlines, rivers and ground water have been polluted on a grand scale. And water is also a very efficient means to contaminate all living things, as the forests devastated by "acid rain", the Chernobyl nuclear fallout sprinkled across Europe by rainclouds, and the epidemic of cholera in Latin America so dramatically show.

John Rodda, the World Meteorological Organisation's "Mr Water", has sounded the alarm, predicting *"a coming water crisis"*. And he says, *"water science is still in a stone age. We can forecast the weather immediately anywhere in the world, but for water we have nothing. If a World Bank official wants to know where the most serious problem of water resource is in Africa, we have no way to tell him."*

Yet nothing happens in our world without the presence of some form of water. *"We forgot that water is the blood and lymph of the biosphere,"* says Malin Falkenmark, chairwoman of the Swedish committee of UNESCO's International Hydrology Programme (IHP). The Rio summit redressed the balance, giving the biggest chapter of its action programme (Agenda 21) over to water. This urged that the world's priceless reserves of water be assessed and ways devised to conserve it and supervise its use.

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IGNORANCE AND COMPLACENCY

Falkenmark criticises the *"general complacency"* which has led us to this sorry state with water. *"Ignorance about the way water travels, down rivers, through the ground, through water tables, the sea and the atmosphere - what we call 'the water cycle' - is one main reason for this complacency,"* she says. Hydrologists are also guilty, she admits, because they are stuck in *"a corner,"* mostly unconcerned about other parts of the environment or experts in other fields. *"Virtually every facet of modern civilisation is demanding more and more water. Virtually every hydrological Service is receiving less and less support"* says Rodda. Hydrologists are scattered through the public and private sectors, research and teaching, but are in a weak position where governments are concerned.

As a result, says Carlos Fernandez Jauregui, an expert in water sciences in the Montevideo office of UNESCO *"the last 20 years have witnessed the execution of a series of projects where the beneficiaries have become the damaged party"*. One reason is that *"bureaucratic mechanisms decided to build dams or fight drought on the basis of incomplete, unreliable information"*. *"Consequently it was seen as necessary to propose a global project to be executed region by region aimed at providing reliable information on water, taking into account scientific as well as technical, economic, social, cultural and ecological factors."* This network, the World Hydrological Cycle Observation System (WHYCOS), will be the fresh water counterpart of the organisation set up for the oceans (see page 9).

But that point has not yet been reached. Two regional projects are still in the planning stage - in Africa, where the need is greatest, and Latin America. They can draw on research already gathered by the IHP and on the World Meteorological Organisation's impressive equipment, especially its system of satellites. The World Bank will probably come up with most of the financing.

Bank specialist, Geoffrey Matthews, cautions however that the network must first emphasize the regions. The African network, even though of course it will contribute to Western data bases, *"must be seen to come from the Africans, and to answer their own needs,"* he says.

SYSTEMATIC OBSERVATION

The project calls for systematic observation of major rivers and checking of their water quality. Hydro-meteorological statistics from a hundred or so weather stations will be put out each day by satellite. A training programme is included to enable receiving countries to use the information. The first six-year phase has an estimated budget of $13m.

The Latin American network, LACHYCOS, is to be a similar size. It aims eventually to provide not just details of resources but also to help with infrastructures, training and legislation, says Fernandez-Jauregui. It should break even financially within five years.

All this research will help to better assess water resources and their capacity for self-purification and to come up with strategies to conserve them. Beyond these *"immediate"* needs, better understanding of the water cycle will help to understand the effects of pollution as well as the development of the world climate of which water is a key element. Such basic research is hampered by the slowness and extraordinary complexity of the process concerned. *"Maybe the water you drank at midday was the same water Julius Caesar drank the day before he died,"* muses Rodda.

For Falkenmark, this is why it is important to be able to gather *"a lot of data"* to answer the *"many questions which linger"* about the relationship between the water cycle, ecosystems and the nature of soils and climates.

Nicolas MICHAUX

JOINING FORCES

The success of the Earth Summit depends largely on two words: cooperation and coordination.

The ambitions of the Earth Summit have demanded a revolution in the workings of the UN family. They require real cooperation, better coordination and more efficient use of resources.

As a first step towards this, the various agencies have undertaken a major restructuring to strengthen their ties and build a coherent approach to Rio's recommendations. It would be too easy, at this early stage, to interpret this as an excuse for a whole new crop of committees and commissions identified by awkward acronyms. However it's an essential step for these heavy but specialized bureaucracies that are accustomed to working independently of each other, often jealously guarding "their" domains.

Is it working?

"*Yes*" according to Nitin Desai, chairman of the Inter-Agency Committee on Sustainable Development, formed after UNCED and of which UNESCO is one of the nine core members.

The Committee is in charge of dividing up the work and responsibilities between the various UN agencies. According to the committee's system of delegation, UNESCO, for example, will be named "*task manager*" for education on environment and development, science for sustainable development and support to the scientific community. Where no single agency is responsible for a given area, an inter-agency group, such as the existing Inter-Secretariat Group for Water Resources, will assume the role of task manager.

However, progress, stressed Desai, requires an "*improvement in the flow of information*". It would also be "*imperative*" he added "*to mobilize new resources... and relax the zero growth budgetary process in the UN system*".

Wishful thinking? Perhaps not. While the much needed "*new resources*" have not been forthcoming, the programmes and budgets of the specialist agencies are being realigned. Within UNESCO, for example, all of the major scientific and educational programmes have been fine-tuned, and an UNCED follow-up committee has been established to guide the Organization and ensure the coordination between the different sectors that has been too often limited to an administrative level. This led to a situation where complementary programmes such as MAB (Man and Biosphere) and the International Hydrological Programme or the Division of Population and Human Settlements worked almost apart, each enclosed in its speciality.

OPENING DOORS

Links are also being strengthened between the UN and non governmental organizations, which finally received formal recognition in Rio for the important role they play. UNESCO has always maintained close ties with the NGOs. "*But the partnership with UNESCO has been unique - it is only since Rio that we have had doors opened for us to other intergovernmental organizations*" says Mike Millward, Assistant Executive Director of the International Council of Scientific Unions (ICSU), the Organization's main partner in the sciences.

Another new actor in the quest for sustainable development is industry, which, up until UNCED, was more or less seen as the enemy. "*We have financial resources and management skills that governmental agencies do not*" explains Hugh Faulkner, Executive Director of the Business Council for Sustainable Development, which, along with the International Chamber of Commerce, represented business and industry at the Earth Summit.

"*Over the past year we have come to agreement with the UNDP, and are awaiting responses from UNEP and the World Bank's International Finance Corporation on our proposition to form a partnership. Given UNESCO's mandate, which covers so many areas vital to sustainable development, we would also be interested in working with the Organization.*" Faulkner told Sources. "*However, we want to put our money into projects in which we can measure the results. And that does not mean endless conferences and meetings.*"

Although the web of cooperation is largely invisible to the public eye, it is slowly but surely being spun. For Faulkner and Millward, the results are so far "*positive*".

For Gisbert Glaser, Coordinator of UNESCO's environmental programmes this "*new era of cooperation and coordination*" is "*essential*" for the UN system and its partners to make an effective contribution to the results of UNCED.

Sue WILLIAMS

TO FIND OUT MORE ...

The **UNCED** Secretariat, 9 rue des Anémones, 1219 Geneva, Switzerland.

ENVIRONMENTALLY SUSTAINABLE ECONOMIC DEVELOPMENT: BUILDING ON BRUNTLAND - A series of articles by specialists supporting the case for transition to a sustainable world and suggesting how this can be done. UNESCO 1991.

MAB BOOK SERIES - A 15-volume series shows how many environmental factors intermesh with social and economic processes. Recent titles: "The World's Savannas" and "Decision Supporting Systems for the Management of Grazing Lands".

The **MAB, IOC** and **IHP** Secretariats will, on request, provide additional background materials free of charge.

Contact **UNESCO/UNEP INTERNATIONAL ENVIRONMENTAL EDUCATION PROGRAMME** for a list of publications, including the IEEP Document Series, the Newsletter **CONNECT,** and a set of 8 **POSTERS** on Climate Change, Biodiversity, Deforestation, and other relevant subjects, with colour photos and drawings, graphs, maps and suggestions for study on "What Can be Done" and "What You Can Do."

co-action

YOU CAN HELP COMBAT POLLUTION AND DEFORESTATION

The UNESCO Co-Action Programme is raising funds to buy equipment for
a refuse recycling plant ▲
a tree nursery ▲
The project is being carried out near the town of Bananal, State of Sao Paulo, Brazil, by the Swiss Global Harmony Foundation.

You can participate by sending a contribution to:
UNESCO Co-Action Programme, 7 place de Fontenoy, 75352 Paris 07 SP, France
Contributions go direct to projects. All administrative costs are borne by UNESCO.

●

SPANISH OPERA SINGER, MONTSERRAT CABALLE, celebrated her 60th birthday on April 14 with a special benefit concert at the Palais Garnier Opera House in Paris for the World Foundation for Research and Prevention of AIDS. Accompanied by pianist Manuel Burgueras, and before a packed house, she interpreted a range of works from Haendal to Rossini and

MONTSERRAT CABALLE
(Photo UNESCO/Michel Claude)

Spanish melodies. The concert raised about $20,000 for the Foundation, which was established last January by UNESCO Director General, Federico Mayor, and AIDS discoverer, Professor Luc Montagnier. Three days later, the celebrated singer presented another benefit concert at Arles in southern France, which raised some $10,000 for UNESCO's special fund for youth.

▼

Some 30 academics from 19 countries met in Nouakchott (Mauritania) at the end of March to coordinate a research project on the ***INFLUENCE OF THE ARAB CULTURE IN LATIN AMERICA.*** The impact of the Arab world is felt in domains ranging from the arts to hydraulics, medecine to navigation and even the introduction of sugar cane. The project's next meeting will take place in Grenada in January.

UNESCO SOURCES

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THE FUTURE OF AFRICA

Educating Africa's female population must be given top priority, concludes a pan continental conference in Ouagadougou.

"I think it is important to educate girls, but if their father is against it what can I do? As a woman I have no say. Even if I told their father that they should go to school, he wouldn't approve. In fact, I'd be asking for trouble," says a frustrated and illiterate mother of non-school going girls in Sierra Leone.

But, replies a male teacher from the country's Eastern Province, *"it is not so important to educate girls because eventually their role is in the kitchen."*

"In our village" explains a male farmer from the Northern Province, *"farming comes before schooling. Teachers have problems with enrolment and retention."*

In coastal areas, it is fish marketing that takes precedence. *"The fish business is lucrative. This is why girls are made to stay at home. They buy, prepare and sell the fish. Boys are reluctant to do this kind of work. They even refuse to enter the fish business..."*

These comments are, alas, all too common, and demonstrate one of the major hurdles to female education in Africa, which lags behind every other region in the world in this domain. More than 60 percent of African women are illiterate, and this figure climbs to more than 90 percent in many places. Some 26 million African girls, most of them in rural areas, don't go to school and estimates show that their numbers will swell to 36 million by the close of the century.

CULTURAL PREJUDICE

The paradox is that few would dispute the important role played by women in African society. It has been estimated that they do two thirds of all the work done, being responsible for virtually all agricultural and associated tasks, as well as the upkeep of the family home. Above all, they directly influence the attitudes, aptitudes, health and well being of their children.

The prejudice against women's education in Africa, though, is deeply rooted in the continent's cultures. A case study of Sierra Leone, commissioned by UNESCO and Unicef and from which the above comments were drawn, clearly reveals that parents believe that school does not prepare a girl for her role as field labourer, housewife and mother - a role that can start as early as 13 or 14 years of age. And, once a girl has fallen pregnant and given birth, very few schools will accept her back at a student. *"A girl who has become pregnant has lived in another social context that is quite different from the school context"* explained a male Headteacher in a Muslim school in Sierra Leone's Northern Province. *"It would be difficult for her to be controlled once more, as before."*

Although any number of studies have shown that an educated female population leads to better hygiene, reductions in mortality and fertility rates and increased family income, the message has not yet filtered through to most of rural Africa.

IRRELEVANT CURRICULA

The existing education system has not helped matters. Those girls who do make it to the classroom and stays there, says UNESCO programme expert, Ms. Winsome Gordon *"are confronted with curricula irrelevant to their needs and usually geared to urban rather than rural lifestyles, and negative attitudes from their mostly male teachers who tend to transmit female cultural stereotypes"*. On top of this, fees are expensive and schools few are far between, which means that girls may have to travel long distances to and from their homes, leaving parents fearful for their security.

There is little, if any, community participation in educational planning and management, which means that schools powerless to play any effective role in the ethical, civic and social education of the future mother and spouse.

Organized under its Priority Africa Programme by UNESCO with UNICEF and Government of Burkina Faso, the Pan-African Conference on the Education of Girls, held in Ouagadougou from March 28 to April first, aimed at finding ways of changing this situation.

The meeting, inspired by the World Conference on Education for All at Jomtien (Thailand, 1990) attracted some 200 participants, most of them women and including education ministers and top ranking officials from 41 African countries, as well as representatives from govern-

mental and non governmental bodies and international organizations.

"We set three objectives with this conference" says Ms Winsome Gordon. *"First to get regional concensus on girls education as a priority for education development in Africa; secondly to identify priority areas for a regional framework for action to improve girls opportunities for education and which would be subsequently translated at national levels and incorporated into national development plans; and thirdly, to work out ways of mobilizing new resources and partners - in other words, making education for all the business of all."*

"WHAT ABOUT ME?"

(Photo UNESCO/F. Caracciolo-Fay Banoun).

However, warned Burkina Faso's Prime Minister, Youssouf Ouédraogo, the participants would have to make sure that the well intentioned recommendations made at the conference were translated into *"concrete"* action. This would obviously prove to be the hard part, pointed out Ahmadou Ali Diaw, Assistant Director General of the Islamic Education, Science and Cultural Organization (ISESCO), *"because in Africa ... there is not always a policy of follow-up or evaluation for all of these well thought out strategies...whether it be on a national, regional or sub-regional level"*. Not to mention the fact that existing socio-political tensions in numerous African countries did not favour the promotion of education, added Assistant Secretary General of the Organization of African Unity, Mr. Pascal Gayama.

For the Regional Director of Unicef's West and Central Africa office, Stanislas Spéro Adotevi, any successful attempt to improve education levels *"should bring schools and communities closer together, encourage the recruitment of teachers, cut the cost of education for families and compensate parents for the loss of a child's labour"*.

EASING WOMEN'S WORKLOAD

The participants also insisted on the importance of increasing the number of female teachers, and providing them with adequate incentives to keep them in the profession. All those having an influence on the community, from traditional and religious chiefs to media, also have a role to play, and should be encouraged to portray positive images of women.

In their final Declaration, they called on African governments to give girls' education top priority, to ensure teacher training on gender issues, and to introduce and enforce regulations eliminating the employment of school-age girls as household help without opportunities for education. They also urged the wives of heads of states, ministers and parliamentarians to form a pressure group for ensuring the education and welfare of the girl child and regional, bilateral and international agencies to concentrate on the development of rural water, roads and electricity to ease the workload of the mother and hence the girl child.

The meeting has been hailed a success. *"This is the first time,"* applauded Prime Minister Ouédraogo *"that education ministers, and most notably women ministers from across the continent, along with numerous African experts have come together to condemn the lack of education of our young girls. Most importantly, they have also expressed the will to change this situation and ensure the access of girls to education."*

"The poet Aragon once wrote that "woman is the future of man"," Burkina Faso's President, Blaise Compaoré told the conference *"That could be adapted, with the approval of all I'm sure, to read that woman is the future of Africa."*

Sue WILLIAMS

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IS THE CLASSIC FAMILY IN PERIL? Why are young people turning away from marriage? How severe are the consequences of the social, economic and cultural crisis on the equilibrium of the African family? These were some of the questions at the heart of debates during a seminar organized, under the auspices of UNESCO, in Abidjan (Cote d'Ivoire) from March 31 to April 4.

About 20 African sociologists, demographers, anthropologists, psychologists and journalists have diagnosed what is happening to the family: whereas, previously, submission to the group in African society was virtually systematic, outside forces are, to an increasing extent, putting traditional order in question. In addition, a kind of solidarity of the streets is beginning to substitute itself for the natural cohesion of the family.

Recommendations made at the seminar include the improvement of education systems, the education of parents, the setting up of marital counseling services, and the harmonisation of family codes.

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THREE UNESCO DATA BASES will soon be hosted on ECHO (European Commission Host Organisation) the EC's host computer.

One of them, UNESBIB, containing 46,000 bibliographic references to documents and publications issued by UNESCO, has been available on line since October last year.

The other two - DARE, listing 4650 research institutes and information services and 4500 periodicals in the social sciences worldwide, and the INDEX TRANSLATIONUM, containing 500,000 bibliographic references to translated books in about 60 countries in the fields of literature, science, social science, art and education (since 1979), are being tested for commercial viability.

There will be no charge to search UNESCO databases on ECHO. The only costs will be telecommunications costs.

☛ *Clearing House Centre DIT/CH, UNESCO*

DEVELOPING DEVELOPMENT

Commission begins its quest for culturally sensitive development.

In the 47 years of its existence, the World Bank has spent more than 218 billion dollars on development projects. And this is but a fraction of the money spent to finance such projects in the Third World - projects usually drawn up by "experts" most often raised and/or trained in the North.

The results of this effort? Two examples suffice to show the gulf that continues to widen between the developed and developing worlds: over the past decade Africa gobbled up one billion dollars in emergency food aid annually; and, last year, Japan's 120 million people earned as much as the combined incomes of the 3.8 billion people in the developing world.

What has gone wrong? It is now widely recognized that imported models of development could not possibly work because they failed to take local cultures, their values and traditions, into account.

The task of working out how to reverse the situation has been given to the UNESCO World Commission on Culture and Development, headed by former UN Secretary General, Javier Perez de Cuellar.

"We must evolve another, more human, sustainable and unifying form of development. But this requires new policies and practices which must recognize the link between culture and development" Mr. Perez de Cuellar, wrote in the French daily Le Monde, prior to the Commission's first meeting at UNESCO from March 17-21.

The job is a daunting one, as the 12 attending Commission members acknowledged after five days of intense discussions which defined their mandate, programme of work, calendar and budget. Over the two final days, they also heard the ideas and opinions of some 20 leading decision makers, intellectuals and artists of the ilk of French philosopher Jacques Derrida, Polish historian Bronislaw Geremek, Brazilian development expert Ignacy Sachs and Tunisian writer Hélé Béji. Their presentations revealed a plethora of disturbing questions and potential minefields for the Commission.

WHOSE CULTURE? WHAT DEVELOPMENT?

What does development mean to non-industrialized societies? To what extent should the cultures of developing societies be "preserved" or "protected", and can they be so without being transformed cultural sideshows for tourists in the name of economic development? *"Must those countries who feel threatened close their borders against Coca Cola and Michael Jackson to protect themselves from dominating foreign cultures?"* asked Pakistani economist and Commission member Mahbub ul Haq.

"What about those cultures that are oppressive for women or that do not respect human rights?" asked Jacques Derrida. *"National identities must not be enclosed...they must be open to others. A closed culture is not a culture, it's barbarism. "Neither should we forget that economic*

CULTURE INSENSITIVE

In Senegal, a creditbank was established for the landless poor to buy such materials as toolkits for carpentry work, or sewing machines, and help them to improve their living conditions. The idea was received enthusiastically by those concerned and a substantial sum was borrowed. Three years later, however, evaluation of the project showed that although the loans had been repaid, the project's objectives had failed miserably. The loans had simply "disappeared", without any apparent improvement in the economic conditions of those helped, and the creditbank had to close down.

What had not been taken into account was that in many parts of Africa the notion of "poor" does not only mean a lack food, housing or clothing. It also means being a "social orphan", without social relations. Thus, the landless poor targetted by the creditbank project had invested in the traditional lending system, paying for the wedding of the daughter of a distant uncle or the funeral of a nephew. They were not in agreement with the closure of the creditbank. In their eyes the project had proved a success.

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THE PHARAOH AND HIS COURT, construction of the pyramids, and the cult of Osiris, ruler of the underworld, are among the large creations composed of LEGO building bricks at an exhibition for children, staged at Headquarters from April 7 to 28. Entitled "The Secret of the Pharaohs", the

show comprises 14 models illustrating different aspects of the life and culture of the period. Some 449,300 bricks and 2,091 hours of work went into their construction. Accompanied by films, texts and photographs, the exhibition also served as an introduction to the activities of UNESCO in the fields of education and world heritage conservation.

▼
More than 1.6 million dollars have been raised for UNESCO's programmes for ***CHILDREN IN NEED*** in a telethon organized by the television station RTL in Germany. Most of the money will be spent on educational facilities for Bosnian refugee children, with sums also set aside for children in Somalia, Vietnam, Mexico and Romania.
The telethon was conducted as part of the campaign launched by UNESCO Goodwill Ambassador in Germany, Ute Ohoven.

CULTURE SENSITIVE

In Brazil, the Rio-based non governmental organization, ISER, decided to launch an AIDS prevention programme among Afro-Brazilians, prostitutes and transvestites in the city. The ISER team knew that more than 80 percent of Afro-Brazilians were connected to the Candomblé and Umbanda religions. So they turned to the priests and priestesses of these religions who not only wield a certain authority among their followers, but are also aware of the ritual importance for them of blood, sperm and saliva, and know how to present and deal with issues concerning these elements. At the same time, contact was also made with the prostitutes and transvestites who revealed a strong interest in protecting themselves and promoting the use of condoms.

These discussions resulted in two programmes: one providing information to the Candomblé and Umbanda priestesses and priests, who, with their authority and ritual language are now passing on this knowledge and exercising their influence on their people; and a second creating a trade union of prostitutes and providing material on Aids, devised and distributed by the prostitutes and transvestites themselves.

These programmes follow a government project that saw clinics opened and documentation distributed but where there was no consultation with the target groups. The clinics remained empty and the documentation, prepared by health ministry officials unread. The project was written off as a failure.

processes continue ... or fall into the trap of thinking that all the world's problems, and their solutions, are cultural."

In seeking its response, said Javier Perez de Cuellar, the Commission must first answer five fundamental questions: what are the cultural and socio-cultural factors that have an impact on development? What is the impact of social and economic development on culture? What is the relationship between culture and models of development? How does cultural development influence the individual and collective well being? And finally, what is the role of cultural activities and artistic creativity, and how do they influence development and international cooperation?

POLITICAL WILL AND DEEP POCKETS

These issues will be addressed at five or six meetings planned by the Commission over the next three years, which, explained Mr. Perez de Cuellar, will be held in different regions of the world, *"to better understand their specific cultural characteristics and problems"*.

The success of the Commission, which must finalize its report by the end of 1995, will depend largely on the political will of governments to act on its recommendations. It will also depend on the generosity of those same governments to finance its work. The Commission has fixed a *"particularly austere"* budget of $5.8m for its three year programme, of which $1.5m has already been pledged by Norway, the Netherlands, Germany and Switzerland.

Nonetheless, UNESCO's Director General, Federico Mayor, is confident that, as with the Brundtland Report on the environment, the Commission's work will give a *"decisive boost"* to the evolution of a development with a human face. *"Culture is not an obstacle to development"*, Mayor said. *"It is its very essence - its chance and its leaven."*

S. W.

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Three folk songs and a contemporary work from India, along with two contemporary works from Korea as well as a series of songs for the weeding of rice-fields and three traditional pieces from Sri Lanka were selected by the jury at the 9th session of the **ASIAN MUSIC ROSTRUM** in Bombay on March 19-20. Organized jointly by the International Music Council and All India Radio, with support from UNESCO's Participation Programme, the Rostrum aims to promote traditional, classical and modern music from the different families and cultures of Asia and Oceania.

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UNESCO's Integral Study of the Silk Roads: Roads of Dialogue was the theme of an international competition organized this year by the Association nationale française pour la promotion des arts décoratifs sur tissus (ANPADT), for artists who paint on silk. Among the more than 200 entries received the judges preferred the ancient map of the silk roads on a scarf designed by ***LUXEMBOURG ARTIST MARIE-LAURE ALFF.*** Fifty of the entries have been selected for printing and will be on display at UNESCO from June 22-30. Numbered copies of some of the winning works will also be available on sale with the profits being donated to the Silk Roads project.

☛ *ANPADT, 17, rue de Cléry, 75002 Paris (France).*

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The **"DROP OF HOPE"**, a large, blue, hot air balloon shaped like a drop of water, rose into the air above Headquarters on March 22 to celebrate the first World Water Day. Some 200 scientists and representatives of non governmental organizations were on hand for the event, which coincided with an international hydrology conference organized by UNESCO and the World Meteorological Organization (WMO). World Water Day was designated by participants at the Earth Summit in Rio de Janeiro last year in an attempt to sensitize the public to the important problems facing water conservation and development of water resources.

JAPAN BANKS ON CULTURE

With $14.5 million to provide "a sense of identity."

Grown men and women making mud pies? Sounds unlikely, but that's about what 20 young specialists were doing at a recent workshop in Moenjodaro, Pakistan's 4,500 year-old city, object of a UNESCO safeguard campaign.

Of course the mud is special, nearly free of the corrosive mineral salts which are eating away the ancient bricks. *"When applied to walls like a beauty mask,"* said UNESCO specialist Hideo Noguchi, *"the 'controlled mud' sucks out humidity, giving the sick bricks new life."*

The workshop was financed under a $339,000 contribution to Moenjodaro from the UNESCO/Japan Trust Fund for Preservation of the World Cultural Heritage. Set up in 1989, the Fund has contributed to some 20 projects for a total $14.5 million.

For the international community, a sense of responsibility for our common heritage, is a fairly new idea. In fact, UNESCO's campaign launched in 1960 to save the monuments and sites of Nubia in Egypt was a milestone. The world community has continued to respond although "more pressing" economic needs, have often put culture on the back burner.

In 1988, however, the then Prime Minister, Noboru Takeshita, announced that one of the pillars of Japan's new "International Cooperative Initiative" was the *"strengthening of cultural exchange"* notably for preservation of the world's cultural heritage through *"cooperation with the appropriate international organizations"*.

"Because of UNESCO's long experience and technical know-how," said Takayuki Kimura, Director General of the Cultural Affairs Bureau of the Japanese Ministry of Foreign Affairs, the Organization was indeed the "most appropriate".

One major allotment,($1.37 million) - to UNESCO's Angkor Programme - is not only a kind gesture. It also responds to one of Japan's major concerns.

"As a member of the Asian community," Mr. Kimura explained *"we do our best to contribute to the solution of Cambodian problems, among the causes of instability in the region. Because of its special symbolism, we are, for example, convinced that Angkor has a vital role to play in national reconstruction."*

Japan will help pay for training, renovate the Angkor Conservation Office, and set up a *"keep-out zone"* for tourists. *"Actually it's not anti-tourist at all,"* said Minja Yang, Head of UNESCO's Task Force on Cambodia. *"The idea is to place barriers and warning signs to prevent accidents which can also damage the monuments."*

Noguchi regularly inspects other campaigns - in the Kathmandu Valley (Nepal) to which the Fund has contributed $376,00, or to Bangladesh where $550,000 is helping restore 8th century Buddhist monastery Paharpur Vihara and the Great Mosque in Bagerat.

"Far from being superficial luxuries"," said Noguchi, *"these historic remains provide strength and inspiration to people who perhaps more than others need culture, dignity and a sense of identity."*

B. W.

PAKISTANI ARCHITECT, MS NASIM AKHTAR JALBANI SUPERVISES RESTORATION WORK AT MOENJODARO (Photo UNESCO/H. Noguchi).

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AUROVILLE, AN EXPERIMENTAL COMMUNITY in southern India, celebrated its 25th anniversary with an exhibition at UNESCO Headquarters from April 2-9. Begun in 1968 as a *"sort of laboratory"* for an alternative approach to education, architecture, scientific research and human unity, it is home today to some 800 people of 25 nationalities who produce goods ranging from incense to peanut butter and computers. Opening the exhibition, Director General, Federico Mayor, praised Auroville as a *"practical example of peace in the minds of men and women and the concrete realization of a human dream"*.

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AN ALUMNI CLUB OF UNESCO FELLOWS has just been created in Japan. The first of its kind, the Club brings together some 150 Japanese scientists and scholars who have received fellowships since Japan joined the Organization in 1951. UNESCO would like to assist in creating similar clubs in other Member States to maintain contact among former fellows - many of them now eminent personalities - foster the dissemination of information on UNESCO and provide feed-back on the efficiency of fellowship and training programmes. In the long term, arrangements will be made to link Alumni Clubs through regional and international networks.

UNESCO SOURCES

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DANGER IN NUMBERS

Education is the key to stabilizing the planet's runaway population growth.

The number of people on our already crowded planet is growing by about 10,000 an hour, 250,000 each day, 100 million every year - nearly twice the population of France.

"This is the most important problem facing us at this time" said Koksal Toptan, Turkish Minister of Education, as he welcomed some 250 specialists from 90 countries to the First International Congress on Population Education and Development, held in Istanbul from April 14 to 17.

Addressing the Congress, which was organized by UNESCO and the UN Population Fund, (UNFPA), UNESCO Director General, Federico Mayor, recalled that *"90 percent of this increase will occur in the developing countries"*. He added that the impact of another three billion people by the year 2025 and an extra five billion by 2050 (according to UN projections) *"would spell disaster, in terms of famine, disease, environmental damage and doubtless intercommunal violence and extremism of all kinds."*

"The situation" Mr. Mayor continued *"is critical, but in no way hopeless. On the contrary, given the will and the resources at both national and international level, runaway population growth will be checked and the number of humans on the planet can be stabilized before catastrophe strikes."*

GIRLS AND WOMEN A PRIORITY

The key to achieving this is education, particularly of girls and women, which he called *"a crucial factor in lowering fertility rates, as well as reducing infant mortality and promoting economic growth."*

According to Nafis Sadik, Executive Director of UNFPA, more than 100 countries now include population education in their school systems. However, these programmes remain out of reach to the 100 million out-of-school children around the world and the one billion illiterate adults, three quarters of them women.

The Congress was told that one of the stumbling blocks to population education had been the misconception that such programmes were basically sex education. However, population education today goes much further, dealing with issues such as health and reproduction, the environment, human rights, the status of women, and international peace and understanding.

In their final Declaration the participants stressed that changes in the demographic situation can only be obtained with the free consent and active participation of the women and men concerned. *"Coercion"* they stated *"is not only incompatible with democratic values and human rights, it is ineffective in the long run"*. Population education should be carried out *"with the framework of universal human rights, with the participation of all parties concerned and with due respect for prevailing socio-cultural values and beliefs of the people"*.

A framework of action intended as a reference and a guide to governments, international organizations, bilateral aid agencies and non-governmental organizations in formulating their plans to implement the Istanbul declaration was adopted.

Although population was not dealt with by the Earth Summit in Rio last year, the Congress has sent out a clear message that education in this domain cannot be brushed aside, and that the very survival of human beings and the environment depended on both a pragmatic short term and a long-term far-sighted plan of action. ■

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THE REPUBLIC OF TAJIKISTAN has become UNESCO's 173rd Member State, after signing the Organization's Constitution on April 6.

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"Scientists must constantly seek to influence decision makers and the public using all possible means" concluded participants at an international conference on the role of science in ***REBUILDING CENTRAL AND EASTERN EUROPE*** held at Leeds Castle in Kent (UK) from April 5-7. Organized by the International Council of Scientific Unions (ICSU), UNESCO and the Commission of European Communities, the conference brought together leading scientists and decision makers from 15 countries and six international organizations. Underlining the importance of science and technology in economic progress and prosperity, they recommended a series of measures such as establishing an information network on existing international opportunities to assist science and scientists in Central and Eastern Europe, the introduction of financial and material incentives to discourage brain drains, and support for increased research on technology transfer between East and West.

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LOOKING AHEAD

A Consultation of UN Agencies concerned with **ENVIRONMENTAL EDUCATION AND INFORMATION**, will be held at Headquarters on June 14 and 15, as a follow-up to UNCED. Following the **1993 CRUISE** (June 5 to July 19) on board the Russian R/V Gelendzhik as part of the UNESCO - European Science Foundation (ESF) "Training-through-Research" cruise project, a workshop on **MUD VOLCANOES AND MUD DIAPIRS**, will be held from June 22 to 24 in Izmir (Turkey). The 6th Regional Conference of **MINISTERS OF EDUCATION** and Those Responsible for Economic Planning in Asia and the Pacific (Misedap VI) will be held in Kuala Lumpur (Malaysia) from June 21 to 24. An International Congress on the **CONSERVATION OF STONE AND OTHER MATERIALS**: Research, Industry, Media, organized by UNESCO and the International Union of Testing and Research Laboratories for Materials and Structures (RILEM) at Headquarters from June 29 to July 1, will be attended by about 300 specialists. Also at Headquarters, an International Congress of **ENGINEERING DEANS AND INDUSTRY LEADERS** will be held from June 23 to 26. June 26 has been designated International Day against **DRUG ABUSE AND ILLICIT TRAFFICKING** and July 11 **WORLD POPULATION DAY**. An International Forum on **SCIENCE & TECHNOLOGY EDUCATION**, will be held at Headquarters from July 5 to 10. The **WORLD SOLAR SUMMIT** : "Sun in the Service of Humanity", will bring together some 400 specialists at Headquarters from July 5 to 9, coinciding with UNESCO's Training Course on **SOLAR ELECTRICITY FOR REMOTE & RURAL AREAS**, also at Headquarters from July 5 to 30. A workshop on "The **ROLE OF BIODIVERSITY AND ECOSYSTEM FUNCTION** in a European Perspective", is being organized by the UNESCO/IUBS/SCOPE Project DIVERSITAS and the EC Commission at Wye College, University of London (U.K.), from July 11 to 13. It will be attended by 15 senior specialists and 30 young scientists from the 12 EC countries plus Norway, Sweden and Iceland.

OUR NEXT ISSUE will focus on UNESCO action to promote **FREEDOM OF INFORMATION**.